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				U.S. PATENT DOCI	JMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Number	Document Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		4,861,420		Knutti et al.	08-29-1989	rigules Appeal
		4,882,933		Petersen et al.	11-28-1989	
		4,904,978		Barth et al.	02-27-1990	
		4,993,143		Sidner et al.	02-19-1991	
		5,060,526		Barth et al.	10-29-1991	
		5,062,302		Petersen et al.	11-05-1991	
		5,084,408		Baba et al.	01-28-1992	
		5,198,390		MacDonald et al.	03-30-1993	
		5,231,301		Peterson et al.	07-27-1993	
		5.313.836		Fuiii et al.	05-24-1994	
		5.326,726		Tsang et al.	07-05-1994	
		5,343,064		Spangler et al.	08-30-1994	
		5.355.712		Petersen et al.	10-18-1994	
		5.445.988		Schwalke	08-29-1995	
		5.447.067		Biebl et al.	09-05-1995	
		5,461,922	, ,	Koen	10-31-1995	
		5,495,761	$\overline{}$	Diem et al.	03-05-1996	
		5,503,285		Warren	04-02-1996	
		5,504,026		Kung	04-02-1996	
		5,506,175	$\overline{}$	Zhang et al.	04-09-1996	

				FORE	IGN PATENT DOCUMEN	TS		
Examiner Initials*	Cite	F	oreign Patent Do	cument		Date of Publication of	Pages, Columns, Lines,	$\overline{}$
	No.1	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T <sup>e</sup>
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		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		GARY K. FEDDER and TAMAL MUKHERJEE, "Physical Design for Surface-Micromachined MEM Proceedings of the 5th ACM/SIGDA Physical Design Worksop, 4/15-17/1996, pp. 53-60	
		BERNHARD E. BOSER, "Electronics for Micromachined Inertial Sensor", 1997 Int'l Conference or Solid State Sensors and Actuators, Chicago, IL, pp. 1169-1172, June 16-19, 1997	
		HUIKAI XIE and GARY K. FEDDER, "A CMOX Z-Axis Capactive Accelerometer With Comb-Finge Sensing", Dept. of Electrical and Computer Engineering and The Robotics Institute	
	1	CHANG LIU and Y. BAR-COHEN, "Scaling Laws of Microactuators and Potential Applications of Electroactive Polymers in MEMS", Proceedings of SPIE's 6th Annual Int'l Symposium on Smart Structures and Materials, 1-5 March, 1999, Newport Beach, CA, Paper No. 3669-33	
		CRIST LU, MARK LEMKIN and BERNHARD E. BOSER, "A Monolithic Surface Micromachined Accelerometer with Digital Output", IEEE Journal of Solid-State Circuits, Vol. 30, No. 12, December 1995	
	1	ROBERT A. CONANT, JOCELYN T. NEE, KAM Y. LAU, RICHARD S. MULLER, "A Flat High-Frequency Scanning Micromirror", 2000 Workshop for Solid State Sensors and Actuators (HH2000), Hilton Head Island, S.C., June 4-8, 2000, pp. 6-9, Digest of Technical Papers	
	1	J. MOHAN, N. I. MALUF, K.E. PETERSEN, G.T.A. KOVACS, "An Integrated Accelerometer as a Demonstrati of a New Technology Using Silicon Fusion Bonding and Deep Reactive Ion Etching", Solid-State Sensor and Actuator Workshop, Hilton Head, SC, pp. 21-22, June 3-6, 1996	
		LALITHA PARAMESWARAN, CHARLES H. HSU, MARTIN A. SCHMIDT, "IC Process Compatibility of Sealed Cavity Sensors", 1997 Int'l Conference on Solid-State Sensors and Actuators, Chicago, IL, pp. 625-628, June 16-19, 1997	
		UPPILI SRIDHAR, LIU LIAN JUN, PANG DOW FOO, "Isolation Process for Surface Micromachined Sensors and Actuators", iMEMS '97 Int'l MEMS Workshop, National University of Singapore, Singapore, Dec., 1997	
		E.K. CHAN and R.W. DUTTON, "Effects of Capacitors, Resistors and Residual Charge on the Stat and Dynamic Performance of Electrostatically-Actuated Devices, CISX 305, Center for Integrated Systems, Stanford University, Stanford, CA	
•		JOHN H. COMTOIS, M. ADRIAN MICHALICEK, CAROLE CRAIG BARRON, "Fabricating Micro- Instruments in Surface-Micromachined Polycrystalline Silicon", Proceedings of the 43rd Int'l Instrumentation Symposium Instrument Society of America, 1997, pp. 169-179	

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ı	Examiner	Date	
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				U.S. PATENT DOCL	JMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Number	Document Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,569,852	(,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Marek et al.	10-29-1996	
		5,511,428		Goldberg et al.	04-30-1996	
		5,537,872		Frere et al.	07-23-1996	
		5,574,222		Offenberg	11-12-1996	
		5,576,250		Diem et al.	11-19-1996	
		5,578,755		Offenberg	11-26-1996	
		5,592,015		lida et al.	01-07-1997	
		5,616,523		Benz et al.	04-01-1997	
		5.620.931		Tsang et al.	04-15-1997	
		5,627,317		Offenberg et al.	05-06-1997	
		5,627,318		Fuiii et al.	05-06-1997	
		5,631,422		Sulzberger et al.	05-20-1997	
		5.706.565		Sparks et al.	01-13-1998	
		5.719.069		Sparks	02-17-1998	
		5.719.073		Shaw et al.	02-17-1998	
		5.723,353		Muenzel et al.	03-03-1998	
		5,747,353		Bashir et al.	05-05-1998	
		5,747,867		Oppermann	05-05-1998	
		5,756,901		Kurle et al.	05-26-1998	
	1	5.798.283		Montague et al.	08-25-1998	

				FORE	IGN PATENT DOCUMEN	rs		
		F	oreign Patent Do	cument	Name of Patentee or	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant	1
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				Application Number	Unknown	
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Sheet	4	of	5	Attorney Docket Number	AIMI-01833US0	

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		MARK SHEPLAK, KENNETH S. BREUER, MARTIN A. SCHMIDT, "A Wafer-Bonded, Silicon-Nitride Membrane Microphone with Dielectrically-Isolated, Single-Crystal Silicon Piezoresistors", Solid-State Sensor and Actuator Workshop, Hilton Head, SC, pp. 23-26, June 8-11, 1998	
		TIMOTHY JOHN BROSNIHAN, "An SOI Based, Fully Integrated Fabrication Process for High-Aspect-Ratio Microelectromechanical Systems", Doctoral Dissertation, University of California, 1998	
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<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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			U.S. PATENT DOCU	JMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Documer  Kind Co	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,847,280	Sherman et al.	12-08-1998	
		5,847,454	Shaw et al.	12-08-1998	
		5,850,042	Warren	12-15-1998	
		5,882,532	Field et al.	03-16-1999	
		5,930,595	Sridhar et al.	07-27-1999	
		5,959,208	Muenzel et al.	09-28-1999	
		6,013,933	Foerstner et al.	01-11-2000	
		5,025,346	Tang et al.	06-18-1991	
		6.133.670	Rodgers et al.	10-17-2000	

1	FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.1		oreign Patent Do Number⁴	Kind Code <sup>5</sup>	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant	 
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